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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/840,767  | 04/23/2001  | J. Graham Mobley     | A-7195              | 4247             |
| 5642  | 7590        | 04/06/2007           | EXAMINER            |                  |
| SCIENTIFIC-ATLANTA, INC.<br>INTELLECTUAL PROPERTY DEPARTMENT<br>5030 SUGARLOAF PARKWAY<br>LAWRENCEVILLE, GA 30044 |             |                      | BROWN, RUEBEN M     |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2623                |                  |
| SHORTENED STATUTORY PERIOD OF RESPONSE  |             | NOTIFICATION DATE    | DELIVERY MODE       |                  |
| 3 MONTHS  |             | 04/06/2007           | ELECTRONIC          |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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PTOmail@sciatl.com

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/840,767             | MOBLEY ET AL.       |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Reuben M. Brown        | 2623                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 January 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3-6 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1, 3-6 & 8-13 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1& 3-5 have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments with respect to Brown & Sanders, with respect to claim 6 have been considered, but are not persuasive.

Applicant argues on page 6 that feature of 'wherein the reverse transmitter provides the reverse optical signal in a single wavelength' is not met by Brown. Examiner respectfully disagrees and points out that the Node 400 of Brown transmits each reverse optical signal as a single wavelength, see Fig. 3; col. 4, lines 30-34, for instance at 1550 nm.

As for the 'reverse receiver coupled to the plurality of nodes for receiving the single wavelength digital optical signal', this feature is met by the Hub 430 of Brown, (Fig. 3). Examiner also respectfully disagrees with applicant's argument that there is no motivation to combine Brown with Sanders, since Sanders is at the home. Sanders was cited for the teaching of controlling the transmission of upstream signals until an upstream signal is sensed, thereby significantly reducing the amount noise transmitted upstream, (col. 1, lines 25-60) which is certainly a proper motivation and is consistent with applicant's invention. Clearly, the circuitry of Sanders is applicable to any point or node in the upstream network, to reduce the amount of ingress noise, (Abstract).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 & 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown, (U.S. Pat # 6,523,177), in view of Dufresne, (U.S. Pat # 4,920,533) and Oakley, (U.S. Pat # 3,886,454).

Considering amended claim 1, the claimed communication system for transmitting forward & reverse signals, the communication system comprising:

'a plurality of terminals for providing reverse optical signals, such that the reverse optical signals are transmitted in an analog format' reads on the plurality of terminals in Brown that transmit reverse signals in analog format, see Figs. 1-3; col. 4, lines 3-17.

'converter for converting a reverse analog signal into a digital optical signal', is met by the node 400 and A/D converter 410 which receives the reverse optical signals and converts from analog/digital, col. 4, lines 17-30.

'carrier-detect circuit coupled to the converter for detecting the presence of a carrier signal in the digital optical signal', is suggested by the operation of the node 400, but not explicitly taught. However Dufresne, which is in the same field of endeavor of upstream transmission, discloses that the system operates such that the filter 7 will remain shut off until they sense the presence of upstream carrier signal, see col. 5, lines 25-42. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Brown with the feature of detecting the presence of upstream data signals, and only transmitting at that time, for the improvement of reducing the amount of ingress noise transmitted upstream, as taught by Dufresne, col. 1, lines 46-60; col. 5, lines 30-34.

As for the claimed 'delay circuit', Dufresne does not discuss such a feature. Nevertheless Oakley, which is in the same field of endeavor provides a teaching of a delay 84, which holds the signal until a threshold is sensed by sensor 83, and then closes the switch 82 to allow the signals to pass, see (Fig. 2B; col. 5, lines 45-67 thru col. 6, lines 1-20). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify the combination of Brown & Dufresne with the technique of a delay circuit and switch, for the desirable advantage

of avoiding losing any of the message information, prior to sensor 83 sending its control signal to switch 82, as taught by Oakley, col. 2, lines 11-67.

Regarding the additionally claimed feature of, ‘wherein the reverse transmitter provides the digital optical signal in a single wavelength only in the presence of the detected carrier’ is met by the operation of transmitter 418, in Brown, see col. 4, lines 25-36 and Dufresne, col. 5, lines 25-42.

‘reverse receiver coupled to the plurality of optical nodes for receiving the single wavelength digital optical signal’, is met by operation of the Hub Site 430, in Brown, (Fig. 3; col. 4, lines 40-52).

Considering claim 3, Brown includes ‘a digital network coupled to each of the plurality of optical nodes’, ‘the reverse receiver coupled to the digital network for receiving the combined digital optical signals and converting the digital optical signals to analog optical signals’, see col. 4, lines 55-67. ‘A headend that receives and process the analog RF signals’, is also met by Brown, col. 4, lines 53-67 & Fig. 3, headend 460. The claimed ‘burst-mode’ feature also reads on the operation of Brown & Dufresne, since the data is transmitted in packet format, which require the use of header identifier information.

4. Claims 4-5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown, Dufresne & Oakley, in view of LaJoie, (U.S. Pat # 5,850,218).

Considering claim 4, Brown is directed to a CATV system that transmits analog & digital signals, but does not disclose a digital and analog headend. Examiner points out that the claimed feature is broad enough to read on a single headend that receives both digital and analog signals. LaJoie provides a teaching of a headend that receives both analog and digital signals., (Col. 2, lines 58-67; col. 19, lines 41-67 & col. 11). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Brown with the teachings of LaJoie, for the desirable advantage of providing a wider range of services to the consumer.

Considering claim 5, the signals in LaJoie necessarily includes an addressing means in order to address the data to the proper recipient systems.

5. Claims 6, 8-9 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown, in view of Sanders, (U.S. Pat # 5,893,024).

Considering claim 6, the claimed communication system for transmitting forward & reverse signals, the communication system comprising:

‘a plurality of terminals for providing reverse optical signals, such that the reverse optical signals are transmitted in an analog format’ reads on the plurality of terminal in Brown that transmit reverse signals in analog format, see Figs. 1-3; col. 4, lines 3-17.

'reverse transmitter for receiving the reverse optical signal into a single port and for providing a combined reverse optical signal in a digital format' and converter for converting to digital, is met by the node 400 and A/D converter 410 which receives the reverse optical signals and converts from analog/digital, col. 4, lines 17-30.

'carrier-detect circuit coupled to the converter for detecting the presence of each reverse optical signal received', is suggested by the operation of the node 400, but not explicitly taught. However Sanders, which is in the same field of endeavor of upstream transmission, discloses an RF detector 206 and comparator 208, which detect RF signals and compares to a threshold value, Fig. 2-4; col. 3, lines 1-67 thru col. 4, lines 1-65. This arrangement in Brown causes the logic circuit 210 to close when data is being transmitted and to be open when no data is being transmitted. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Brown with the feature of detecting the presence of RF data signals, and only transmitting at that time, for the improvement of reducing the amount of ingress noise transmitted upstream, as taught by Sanders, col. 1, lines 26-60; col. 2, lines 10-18; col. 4, lines 52-65.

The delay circuit is broad enough to correspond with the circuit 214 of Sanders. Thus, the claimed 'switch coupled to the delay circuit' and 'controlled by the carrier detect', is met by the logic circuit 210 of Sanders.

Regarding the additionally claimed feature of, ‘wherein the reverse transmitter provides the combined reverse optical signal in a single wavelength only in the presence of the detected reverse optical signal’ is met the operation of transmitter 418, in Brown, see col. 4, lines 25-36 and Sanders.

Considering claim 8, see Brown col. 4, lines 15-30, which discloses an A/D converter 410.

Considering claim 9, the packet transmission technique of Brown necessarily meets the claimed subject matter, col. 4, lines 29-35.

Considering claim 12, Brown is a hybrid fiber coax systems.

6. Claims 10-11 & 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown & Sanders, in view of LaJoie.

Considering claims 10-11, Brown is directed to a CATV system that transmits analog & digital signals, but does not disclose a digital and analog headend. Examiner points out that the claimed feature is broad enough to read on a single headend that receives both digital and analog signals. LaJoie provides a teaching of a headend that receives both analog and digital signals., (Col. 2, lines 58-67; col. 19, lines 41-67 & col. 11). It would have been obvious for one of

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ordinary skill in the art at the time the invention was made, to modify Brown with the teachings of LaJoie, for the desirable advantage of providing a wider range of services to the consumer.

Considering claim 13, Brown does not discuss avoiding collision of reverse signals.

Official Notice is taken that such a technique was well known in the art at the time the invention was made. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Brown with the feature of collision avoidance, at least for the desirable improvement of a more efficient transmission system.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

**Any response to this action should be mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**or faxed to:**

(571) 273-8300, (for formal communications intended for entry)

**Or:**

(571) 273-7290 (for informal or draft communications, please label  
"PROPOSED" or "DRAFT")

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reuben M. Brown M. Brown whose telephone number is (571) 272-7290. The examiner can normally be reached on M-F(8:30-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications and After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Reuben M. Brown



HATTAN  
PRIMARY EXAMINER